4. Htoo

Program Name: Htoo.java Input File: htoo.dat

Htoo wants to build a computer vision algorithm for identifying objects in photos. He realizes the first thing he must accomplish toward his task is to identify when two things are touching, which when realized in a two dimensional plane, means that there are two line segments that intersect. He overlaid all of his pictures for his vision algorithm with a pixel grid. Given the start and end point of each of the line segments in his pixel array, determine if the two segments in the photo intersect at any given pixel.

Htoo guarantees that there will only be two line segments, designated by two sets of ordered pairs, in any given photo.

Input: The first integer is the number of photos. Each photo will span two lines of input, the first representing the start and end pixel (in x, y coordinates) of the first line, and the second presenting the start and end pixel (in x, y coordinates) of the second line.

Output: If the two lines cross or touch at any point, print "INTERSECT" otherwise, print "NO INTERSECTION"

Sample input:

```
3
(0, 0) > (2, 2)
(2, 0) > (0, 2)
(0, 0) > (2, 2)
(0, 1) > (2, 3)
(0, 0) > (2, 2)
(4, 4) > (2, 2)
```

Sample output:

```
INTERSECT
NO INTERSECTION
INTERSECT
```